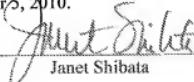


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By:



Janet Shibata

PATENT
PD-201157

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:	Ashish Banerji, <i>et al.</i>	Examiner:	Tung T. Vo
Application No.:	10/074,765	Group Art Unit:	2621
Filed:	February 12, 2002	Customer No.:	20991
Docket No.:	PD-201157	Confirmation No.:	9961
For: SYSTEM AND METHODOLOGY FOR VIDEO COMPRESSION			

Commissioner for Patents
Alexandria, VA 22313-1450

REPLY BRIEF

Dear Sir:

This Reply Brief is submitted in response to the Examiner's Answer mailed August 5, 2010.

I. STATUS OF THE CLAIMS

Claims 1-23 are pending in this appeal. No claim is allowed. This appeal is therefore taken from the final rejection of claims 1-23 on January 15, 2010.

II. GROUNDS OF REJECTION TO BE REVIEWED

Claims 1, 2, and 11-23 were finally rejected for anticipation under 35 U.S.C. § 102(b) based on *Savatier* (US 5,400,075).

Claims 3, 5, and 16 were finally rejected for obviousness under 35 U.S.C. § 103(a) based on *Savatier* (US 5,400,075) in view of *Tahara et al.* (US 5,805,225).

Claims 4 and 16 were finally rejected for obviousness under 35 U.S.C. § 103(a) based on *Savatier* (US 5,400,075) in view of *Carnahan* (US 5,414,780).

Claims 6, 7, and 16 were finally rejected for obviousness under 35 U.S.C. § 103(a) based on *Savatier* (US 5,400,075) in view of *Kato et al.* (US 5,719,986).

Claims 8 and 16 were finally rejected for obviousness under 35 U.S.C. § 103(a) based on *Savatier* (US 5,400,075) in view of *Weinberger et al.* (US 5,680,129).

Claims 9 and 10 were finally rejected for obviousness under 35 U.S.C. § 103(a) based on *Savatier* (US 5,400,075) in view of *Moroney et al.* (US 5,771,239).

III. ARGUMENT

Appellants maintain and incorporate the positions presented in the Appeal Brief filed June 9, 2010, but present further refutation of certain assertions presented in the Examiner's Answer.

At page 12 of the Answer, responsive to Appellants' argument that *Savatier* does not disclose grouping video frames that are **only** between consecutive I-frames into a video data set as set forth in independent claims 1, 17, 19, and 22, and splitting the video data set **consisting of non-intra video frames** into a plurality of data sequences as set forth in independent claim 21, the Examiner again referred to Figure 1 of *Savatier* and asserted that the sequence BBPBBB the sequence BBPBBB between two I-frames provides such a teaching. Appellants, again, disagree.

Appellants do not necessarily dispute that the cited sequence of P- and B-frames is depicted in Figure 1 of *Savatier*; however, such sequence is not grouped into a video data set that comprises only video frames that are between consecutive I-frames. That is, the claimed invention, e.g., claim 1, recites “grouping video frames that are **only** between consecutive I-frames into a video data set.” Thus, in order to meet the claim language, **only** the P- and B-frames of *Savatier* would need to be grouped into a video data set. However, as is apparent in Figure 1 of *Savatier*, this is not the case because the group of frames within the video data set (GOF) is shown to extend from I-frame to I-frame, including both the P- and B-frames **and** the I-frames. Since the video data set in *Savatier* includes the I-frames, there is no “grouping video frames that are **only** between consecutive I-frames into a video data set.” The claimed invention excludes the I-frames from the video data set, but *Savatier* includes the I-frames. Accordingly, *Savatier* cannot anticipate the claimed subject matter.

Moreover, *Savatier* is silent as to whether or not the P-frames and the B-frames between two I-frames are **compressed independently of any other frames** and silent with regard to “splitting the video data set **consisting of non-intra video frames** into a plurality of data sequences” as set forth in independent claim 21.

Savatier nowhere discloses that **only** the B- and P-frames form a video data set group, especially a video data set that is then split into a plurality of homogeneous files, with each of the homogeneous files then being individually compressed. Further, *Savatier* is silent with respect to “splitting the video data set **consisting** [i.e., include nothing more than what is listed] **of non-intra video frames** into a plurality of data sequences” because the video data sets of *Savatier*, *viz.*, groups GOF_i and GOF_{i+1}, include I-frames; this disclosure being inconsistent with the instant claimed subject matter.

In citing col. 2, line 65 through col. 13, line 12, the Examiner asserted (page 12 of the Answer) that when the intra encoding mode of *Savatier* is selected, only P- and B-frames within the Group of Frames are encoded. Appellants respectfully disagree.

In *Savatier*, either in the cited portion or any other portion, there is no mention of the B- and P- frames **only being formed into a video data set**, which is then split into a plurality of homogeneous files, with each of the homogeneous files then being individually compressed. The I-frames in *Savatier* are very much taken into account in the encoding process, with an I-frame being designated as an anchor frame (i.e., the I-frame is still part of the group, or video data set). **Any** frame may be predictive coded or intraframe coded. Therefore, the portion of the reference cited by the Examiner does not provide any disclosure or suggestion of forming a video data set group **only** of B- and P-frames, especially a video data set that is then split into a plurality of homogeneous files, with each of the homogeneous files then being individually compressed. The teaching of separate encoding modes for I-frames and other frames does not, *per se*, suggest forming a video data set group **only** of B- and P-frames, the video data set then being split into a plurality of homogeneous files, with each of the homogeneous files then being individually compressed.

At page 12 of the Answer, the Examiner asserted that encoding P- or B-frames in *Savatier* “inherently” performs grouping of those frames. While Appellants do not agree, to the extent that an encoding of P- and B-frames could be considered a “grouping” of only those frames, it is not forming a video data set group **only** of B- and P-frames, especially a video data set that is then split into a plurality of homogeneous files, with each of the homogeneous files then being individually compressed. That is, such a set, or grouping, does not correspond to “splitting the video data set into a plurality of homogeneous files” and “individually compressing each of

the homogeneous files,” as in independent claims 1, 17, and 19, does not correspond to “splitting the video data set consisting of non-intra video frames into a plurality of data sequences; and **individually compressing each of the files**, wherein at least one of the data sequences contains information from each of the non-intra video frames,” as in independent claim 21, and does not correspond to “grouping video frames of the video signal that are only between consecutive I-frames into a video data set; **splitting the video data set into a plurality of individual data sequences; and individually compressing each of the individual data sequences,**” as in independent claim 22.

At page 12 of the Answer, the Examiner asserted that such splitting of the video data set is disclosed at col. 2, lines 54-66 and Figure 1 of *Savatier*. However, as previously argued in the principal Brief, *Savatier* discloses that the “**frames in respective GOFs** are compressed according to three processes” (col. 2, lines 50-51). Frames in respective GOFs, by definition, include I-frames since, as depicted in Fig. 1 of the reference, the I-frames are part of the GOFs. Thus, it is inaccurate for the Examiner to assert that *Savatier* discloses or suggests splitting the video data set consisting of non-intra video frames into a plurality of data sequences when any video data set in *Savatier* includes the I-frames, contrary to the claimed invention.

With regard to dependent claims 3 and 5, claim 3 recites “wherein said splitting includes storing mode information of the video data set and motion components in separate files” and claim 5 recites “wherein said splitting includes storing B-frame components of the video data set and P-frame components of the video data set in separate files.”

As previously argued in the principal Brief, the Examiner relied on elements 51 a, b, c, and 1 in Fig. 6 of *Tahara et al.* for a disclosure of storing these specifically claimed elements, but

Fig. 6 clearly depicts a frame memory 51 as storing three pictures; a current picture, a picture preceding the current picture, and a picture succeeding the current picture. There is no storage of “mode information of a video data set” or “motion components” or B- and P-frame components of the video data set, and there is clearly no storage in “separate files,” as claimed. Thus, the combination of *Savatier* and *Tahara et al.* clearly does not teach or suggest the features of claims 3, 5, and 16.

At page 13 of the Answer, the Examiner asserted that *Tahara et al.* does teach storing mode information of the video data set and motion components in separate files. Appellants disagree. The Honorable Board is invited to review Fig. 6 of *Tahara et al.*, wherein, again, frame memory 51 stores three pictures; a current picture, a picture preceding the current picture, and a picture succeeding the current picture. Nowhere in this memory 51, relied on by the Examiner for the storage of mode information of a video data set, is there storage of “mode information of a video data set” or “motion components” or B- and P-frame components of the video data set, and there is clearly no storage in “separate files,” as claimed. The storage of three separate pictures, a current picture and pictures preceding and succeeding the current picture, does not correspond to storage of “mode information of a video data set” or “motion components” or B- and P-frame components of the video data set, and the Examiner has not identified why he interprets these pictures as such. The storage of an actual picture is not “mode information.” But, even to the extent it could be considered “mode information,” and Appellants assert that it cannot, such “mode information” is not split in separate files, as required by the claimed invention.

At page 13 of the Answer, responsive to Appellants’ argument that there is no proper suggestion to combine the references, the Examiner merely recites boiler-plate Office Action language regarding the Examiner’s recognition that obviousness can only be established by combining teachings of the prior art...where there is some teaching, suggestion or motivation,

citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). However, the Examiner never applies the rationale in *In re Fine* to the subject matter at hand and does not explain why *Savatier* and *Tahara et al.* are combinable, within the meaning of 35 U.S.C. § 103(a). The general allegation, *per se*, that these references “are in the same environment of video encoding/decoding” is not reason enough to make the combination. The Examiner never even explains what modification(s) are being made to the primary reference by the secondary reference in order to arrive at the claimed invention. The Examiner’s rationale is that “it would have been obvious...to modify the teachings of *Savatier* into the encoder of *Savatier* for improving encoding and decoding efficiency” (Answer-page 7). The rejection does not make clear what it means to modify teachings “into” an encoder, especially of the same reference. But even if there was a typographical error in the explanation and it meant to say “to modify the teachings of *Tahara* into the encoder of *Savatier*,” it is still unclear what, exactly, is being modified. Rejections having a rationale which are unclear on its face cannot constitute a showing of *prima facie* obviousness. For this reason alone, reversal, by the Honorable Board, of the rejection of claims 3, 5, and 16 under 35 U.S.C. § 103(a) is respectfully solicited.

With regard to dependent claims 4 and 16, no *prima facie* case of obviousness, within the meaning of 35 U.S.C. § 103(a), has been established because *Carnahan*, applied by the Examiner for the supposed teaching of splitting that includes storing horizontal components of the video data set and vertical components of the video data set in separate files, fails to cure the noted shortcomings in the teachings of *Savatier* in spite of the Examiner’s allegation, at page 15 of the Answer, that *Carnahan* teaches storing mode information of the video data set and motion components.

Accordingly, reversal, by the Honorable Board, of the Examiner's rejection of claims 4 and 16 under 35 U.S.C. § 103(a) is respectfully solicited.

With regard to dependent claims 6, 7, and 16, as previously argued in the principal Brief, these claims are separately patentable because claim 6 recites "wherein said splitting includes storing mode 3 B-frame components of the video data set and mode 0, 1, and 2 B-frame components of the video data set in separate files" and claim 7 recites "wherein said splitting includes storing different color components of the video data set in different files."

The Examiner repeats his argument, at page 18 of the Answer, regarding Figures 3 and 5C of *Kato et al.* storing mode 3 B-frame components of the video data set in separate files and storing different color components of the video data set in different files.

However, Fig. 3 of *Kato et al.* is nothing more than a depiction of a picture encoding apparatus with prediction modes and intra-frame prediction, with no disclosure therein indicative of the specific features of claim 6, wherein the splitting of a video data set into a plurality of homogeneous files includes "storing **mode 3 B-frame components** of the video data set **and mode 0, 1, and 2 B-frame components** of the video data set **in separate files**." *Kato et al.* does not disclose these components and clearly does not teach or suggest storing them in "separate files."

Fig. 5C of *Kato et al.* illustrates a microblock construction, with a luminance signal Y and a mean value R of a chroma signal Cr, but while this may refer to "color," there is no teaching or suggestion in *Kato et al.* that the splitting of a video data set into a plurality of homogeneous files includes "storing different color components of the video data set in different files." Even if the

Y, Cb and Cr within Fig. 5C may be considered to be “different color components” which they are not, such components are not stored “in different files,” as claimed.

Accordingly, reversal, by the Honorable Board, of the Examiner’s rejection of claims 6, 7, and 16 under 35 U.S.C. § 103(a) is respectfully solicited.

With regard to dependent claims 8 and 16, no *prima facie* case of obviousness, within the meaning of 35 U.S.C. § 103(a), has been established because *Weinberger et al.*, applied by the Examiner for the supposed teaching of mapping negative values in one of the homogeneous files in to positive values, and a file header, fails to cure the noted shortcomings in the teachings of *Savatier*.

Accordingly, reversal, by the Honorable Board, of the Examiner’s rejection of claims 8 and 16 under 35 U.S.C. § 103(a) is respectfully solicited.

With regard to dependent claims 9 and 10, as previously argued in the principal Brief, these claims are separately patentable because claim 9 recites “wherein said compressing includes applying a grammar-based code” and claim 10 recites “wherein said applying includes employing a YK algorithm.”

Despite the Examiner’s argument, at page 22 of the Answer, that “Moroney teaches the MPEG coding technique uses a formal grammar...and a set of semantic rules for the construction of bitstreams to be transmitted, wherein the grammar encoding would obviously have YK algorithm to encode the homogeneous files” [sic], to whatever extent *Maroney et al.* may be considered to teach a “grammar-based code” and/or a YK algorithm,” they are not employed in the manner claimed, i.e., for compressing **each** homogeneous file. In fact, at page 10 of the

Office Action of August 18, 2009, the Examiner acknowledged that *Maroney et al.* fails to teach a “YK algorithm.” Yet, in the face of this acknowledgement, the Examiner asserted, unsubstantiated by any evidence, that “the grammar encoding would obviously have YK algorithm to encode the homogeneous files.” It is not so obvious that *Maroney et al.* would have a YK algorithm to encode homogeneous files in the manner claimed and this conclusion is challenged by Appellants. Thus, no *prima facie* case of obviousness has been established regarding the subject matter of claims 9 and 10.

Accordingly, reversal, by the Honorable Board, of the Examiner’s rejection of claims 9 and 10 under 35 U.S.C. § 103(a) is respectfully solicited.

IV. CONCLUSION AND PRAYER FOR RELIEF

Appellants, therefore, request the Honorable Board to reverse each of the Examiner’s rejections.

Respectfully Submitted,


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